

# Flowing Fluid Floods City

## Think About It

You may have heard the expression “as slow as molasses in January.” Read the following true story and then answer the questions.



January 15, 1919, was an unusually warm day. The fine weather lured the citizens of Boston, Massachusetts, outside to enjoy the springlike temperatures. It hardly seemed like the setting for a disaster.

The workers in Boston's industrial North End were enjoying lunch and the pleasant weather. Suddenly, they heard a low rumbling and then an explosive crack. A

30-m wide cast-iron tank, standing 15 m above street level on the property of the United States Industrial Alcohol Company, burst apart! Like lava spilling from a volcano, crude molasses flowed into the street. The result was a “flash flood” consisting of 10 million litres of sweet, sticky, deadly goo.

The “wall of molasses” — some witnesses say as high as 5 m — poured through the streets at a speed of almost 60 km/h. It demolished buildings, ripping them off their foundations. It flipped vehicles over and buried horses. People tried to outrun the gooey tidal wave, but they were overtaken and either hurled against solid objects, or drowned where they fell. Within minutes, 21 people were killed and more than 150 injured.

The clean-up took weeks. Lawsuits were filed against the United States Industrial Alcohol Company, charging it with negligence. After six years, the court made a final ruling against the Company. The court's findings showed that the tank had been overfilled and that it was not properly reinforced. The United States Industrial Alcohol Company had to pay more than one million dollars in damages.

## Analyze

1. Gather some clues from the story:
  - (a) What was the date?
  - (b) What was unusual about the weather?
  - (c) What was the first clue that something disastrous was about to happen?
  - (d) How fast did the molasses pour out of the tank?
  - (e) Who was accused of being responsible for the accident?

2. Use the particle theory to explain why the tank burst.
3. Energy is responsible for making things move. Use the particle theory to try to account for why something as viscous as molasses could move as quickly as it did on that particular day, at that particular moment.

## Critical Thinking

4. For what purpose do you think the company used the molasses?